



**Whatcom County:**

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Scope of Assistance:

The kickoff meeting with Whatcom County staff occurred on May 26, 2005. At that meeting, County staff provided direction to the consultant team on areas of emphasis for LID regulatory assistance. These areas included:

- A minimum set of standards to identify an LID project
- Draft code provisions for addressing LID subdivisions
- Recommendations on legal mechanisms to guarantee long-term responsibility for LID facilities
- Standards for maintenance of LID facilities

Minimum LID standards:

To accomplish the first bullet, the consultant team drafted a new section 20.80.637 which provides minimum standards for an LID project. The section addresses situations where a definition is required to assess compliance for receipt of incentives for LID or where LID may be mandated.

The consultant team proposes separate sets of standards for rural and urban residential areas, non-residential uses, and new roadways due to the varying needs, available land, and land use patterns. In all situations, preservation of native soils or amendment of disturbed soils should be required. Topsoil serves a critical purpose in the hydrology of undeveloped sites.

Native vegetation retention is included as it is one of the most beneficial LID techniques. Forest cover and forest soils capture, evaporate, infiltrate, and transpire a portion of the rain falling on a site, limit the development envelope, and provide area for dispersion. The lower urban threshold acknowledges that achieving urban densities will not be feasible with 65 percent native cover retention. However, a range of 10 to 35 percent, depending on the use, is intended to be the minimum with greater forest retention encouraged.

The 2005 DOE flow control standard is intended to ensure that LID systems are designed with sufficient capacity.

The rural residential criterion for 100 percent infiltration or dispersion and the urban criteria for a maximum conventional detention capacity provide a measurable threshold to ensure that conventional techniques will be minimized.

A sliding scale of allowed impervious surface percentage according to planned density may require that developers find creative approaches to limit impervious area. Techniques for developing under the cap may include minimal excavation foundations, green roofs, and pervious systems.

The consultant team included a sheet with potential incentives that the County may wish to offer to designated LID projects. When the County adopts the 2005 DOE manual or equivalent, the detention requirements should be sufficient incentive to motivate developers to adopt an LID approach. However, the full range of LID BMPs in the 2005 Manual should also be available to all development whether through conscientious intent or to limit detention capacity.

#### Planned Low Impact Development (PLID) Chapter:

Based on our understanding of staff's interest in a process for review of LID subdivisions, the consultant team prepared a new chapter for the Title 20 of the County Code. Due to the similarities in format and process, this was incorporated into the PUD Chapter, WCC 20.85

#### Legal mechanisms:

At the meeting with County staff, the issue was raised of mechanisms to guarantee long-term maintenance of and prevent adverse impacts to LID facilities. As with conventional stormwater systems, the County must take ultimate responsibility for oversight. This will require regular inspections to ensure that the system components continue to function as designed. However, the County can require that routine maintenance and financial responsibility stays with the property owners. Copies of maintenance covenants from Prince George's County and King County were provided to the County.

The covenants provide the county access rights to the facilities and a method for ensuring that maintenance and repair occurs either by the property owner or the county with recourse for reimbursement for the latter. Staff expressed concern at the possibility that a responsible agency such as a homeowner's association would dissolve, leaving the County in possession of and responsibility for common facilities. It would appear that covenants against each property within a subdivision would continue to be effective under this scenario. The County should consult its legal counsel to ensure that such covenants would be enforceable.

#### Maintenance of LID Facilities:

There is a growing body of documentation on the maintenance of LID facilities. Examples include PSAT's LID Technical Guidance Manual, the 2005 King County Surface Water Design Manual, the Prince George's County Bioretention Manual, and Seattle Public Utilities Maintenance Activity Protocol for Natural Drainage Systems. A number of examples were provided to the County and a new maintenance manual was prepared for applicability across jurisdictions and is included as an appendix to this package.

A second meeting was held with Whatcom County on November 9, 2005. At this meeting, Whatcom County provided additional direction to the project team. This guidance resulted in the following refinements to the draft 20.80.637:

- Additional information recognizing the variety of soil infiltration capabilities within the County
- Clarifying language on the maximum conventional detention standards
- More detailed language on native growth protections
- Additional administrative flexibility on implementing the new regulations

Other recommendations relating other portions of the Whatcom County regulations included:

- Recommending adoption of the Low Impact Development Technical Guidance Manual BMPs
- Merging the PLID chapter with the existing PUD chapter
- Adopting the Western Washington Hydrology Model as the preferred stormwater model
- Establishing a specialized LID review team for project submitted as LID

Findings and Observations:

As is illustrated by the scope of work prepared for this grantee, concerns were raised about the long-term maintenance and effectiveness of LID techniques.

The second meeting involved review of the technical assistance materials. Because the meeting was focused on reviewing the materials, it was unclear to the consultant team if the Public Works Department's threshold concerns about maintenance had been satisfied. This may be an outstanding issue that could delay implementation.

Policy documents exist within Whatcom County that include specific language supporting the use of LID (e.g., the Birch Bay Neighborhood Plan). Moreover, Whatcom County currently has some LID BMPs adopted for its stormwater special districts. These LID alternatives would be enhanced by recognizing the full suite of LID BMPs through adoption of the *Low Impact Development Technical Guidance Manual for Puget Sound* (Puget Sound Action Team, January 2005) and/or the *Stormwater Management Manual for Western Washington* (Washington State Department of Ecology, April 2005).